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EXAMINER	
SHAN, APRIL YING	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/669,472	OH, MYUNG DAE	
	Examiner	Art Unit	
	APRIL Y. SHAN	2435	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 October 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,5,6,53 and 54* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,5,6,53 and 54* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *8/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The Applicant's amendment, filed 31 October 2008, has been received, entered into the record, and considered.

2. As a result of the amendment, claims 1-2 have been amended. Claims 3-4 and 7-52 are canceled. Therefore, claims 1-2, 5-6 and 53-54 are now presented for examination.

3. Any claim objection/rejection not repeated below is withdrawn due to Applicant's amendment.

4. Any well known art statements from the previous office actions not argued by the Applicant are taken as admittance of prior art as per MPEP 2144.03.

Admitted Prior Art

5. The examiner acknowledges in the response dated 14 April 2008 from the Applicant, the figures 1-4 are Applicant's Admitted Prior Art. The examiner further points out par. [1] – par. [25] on pages 1-7 and par. [62] – par. [65] on pages 18-19 of the Applicant's original disclosure are also deemed as Prior Art since they are the corresponding paragraphs of detail description of figures 1-4.

Claim Interpretation

6. On page 4 of the remark, the Applicant states the amendment to claim 1 is supported by paragraphs [78]-[82] of the original disclosure. As explained in the paragraphs [78] – [82] on pages 21-22 of the original disclosure, the Applicant discloses

"...After all the processes required for ciphering activation, all data to be transferred is ciphered and transmitted". Therefore, the newly added claim limitation of "ciphering additional call information to be transmitted..." to claim 1 can be reasonably interpreted as ciphering all data to be transferred after all the process required for ciphering activation and call information can be reasonably interpreted as any data transmitting between terminal and network in view of Applicant's original disclosure.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 1, 5-6 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (hereinafter as Admitted Prior Art) in view of Arata et al. (European Patent publication number 0617528 A2, published on 28 September 1994 and hereinafter as Arata et al.).

As per **claim 1**, Admitted Prior Art discloses a method of ciphering call information transferred between a mobile communication terminal and a network, comprising:

connecting a call between the terminal and the network (e.g. figs. 1, 2 and 3 of Admitted Prior Art and "...when any user transmits or receives a call using terminals 110, 120, the terminal is connected to a respective one of the base stations 111, 121" - e.g. par. [10] on page 4 of Admitted Prior Art and "....When a terminal 10 transmits a connection management...service request message 301 to the network 20 in order to transmit a voice call..." – e.g. par. Par. [16] on page 5 of Admitted Prior Art);

transferring call information between the terminal and network without ciphering the call information (step 402 in fig. 4 of Admitted Prior Art. *Please note step 403 "Perform the ciphering?" follows step 402 and therefore, it is clear the communication in step 402 is not ciphered*);

transmitting a ciphering authentication request message from the network

to the terminal in response to the ciphering request (step 202 in fig. 2 of Admitted Prior Art and step 302 in fig. 3 of Admitted Prior Art);

transmitting a ciphering authentication response message from the terminal to the network in response to the ciphering authentication request message (step 203 in fig. 2 of Admitted Prior Art and step 303 in fig. 3 of Admitted Prior Art);

transmitting a ciphering activation completion message from the network to the terminal in accordance with the ciphering authentication response message (step 204 in fig. 2 of Admitted Prior Art and step 304 in fig. 3 of Admitted Prior Art); and

ciphering additional call information to be transmitted between the terminal and network after the ciphering activation completion message is received from the network (*When a mobile communication terminal requests registration to the network, the network performs the user authentication process of confirming whether the terminal is an authenticated terminal. The ciphering activation process then determines whether data to be transferred between the terminal and network should be ciphered...Once the ciphering activation is set up between the mobile communication terminal and the network through the ciphering activation process, the call information is ciphered and then transferred there between* - paragraphs [3] - [4] of Admitted Prior Art and *Finish procedure*

data to be transmitted after the procedure is ciphered step 413 in fig. 4 of Admitted Prior Art).

Although Admitted Prior Art disclose receive registration request/CM service request without ciphering (*Step 402 in fig. 4. Perform the ciphering? In step 403 is performed after step 402 and thus, received registration request/CM service request message is not ciphered and please note received registration request/CM service request message corresponds to Applicant's call information),* transmitting a ciphering request for call information from the network to the terminal after the call information has been transferred between the terminal and network without ciphering (e.g. step 407 in fig. 4 of Admitted Prior Art), Admitted Prior Art does not disclose transmitting a ciphering request for call information from the terminal to the network and wherein the ciphering request is transmitted during transfer of data from the terminal to the network during the call.

However, Arata et al. discloses transmitting a ciphering request for call information from the terminal to the network and wherein the ciphering request is transmitted during transfer of data from the terminal to the network during the call *(When the user of a radio telecommunication apparatus requests a privacy mode and a call origination…sends a call*

signal including the requested privacy mode to a base station – e.g. abstract)

Admitted Prior Art and Arata et al. are analogous art of the same field of mobile communication.

It would have been obvious for a person with ordinary skill in the art at the time of the invention to incorporate Arata et al.'s transmitting a ciphering request for call information from the terminal to the network and wherein the ciphering request is transmitted during transfer of data from the terminal to the network during the call into Admitted Prior Art's method or replace Admitted Prior Art's transmitting a registration request from the terminal to the network with Arata et al.'s transmitting a ciphering request for call information from the terminal to the network.

The motivation of doing so would have been to enable a caller/user to "sends a call signal including the requested privacy mode to a base station" to enable the terminal to transmit the request if the ciphering request has not been raised by the network and "use a privacy mode having a voice privacy feature which protects the user's communicated voice signal against eavesdropping", as taught by Arata et al. (abstract and col. 2, lines 40- 43).

As per **claim 5**, Admitted Prior Art - Arata et al. discloses a method as applied above in claim 1. Admitted Prior Art – Arata et al. further

discloses wherein the call information includes a voice information (e.g. figs. 1-4 of Admitted Prior Art and abstract of Arata et al.).

As per **claim 6**, Admitted Prior Art – Arata et al. discloses a method as applied above in claim 1. Admitted Prior Art - Arata et al. further discloses wherein the call information includes data and wherein the ciphering request is transmitted during transfer of data from the terminal to the network during the call (e.g. figs 1-4 of Admitted Prior Art and abstract of Arata et al.).

As per **claim 53**, Admitted Prior Art - Arata et al. discloses a method as applied above in claim 1. Arata et al. further discloses wherein the ciphering request is generated and transmitted without including a RAND value for ciphering activation (e.g. abstract of Arata et al.).

10. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (hereinafter as Admitted Prior Art) in view of Arata et al. (European Patent publication number 0617528 A2, published on 28 September 1994 and hereinafter as Arata et al.) as applied to claims 1, 5-6 and 53 above, and further in view of Al-Tawil et al. (IEEE publication "A new authentication protocol for GSM network", published in 1998 (herein after as AL-Tawil et al.)

As per **claim 2**, Admitted Prior Art - Arata et al. discloses a method as applied above in claim 1. Admitted Prior Art – Arata et al. does not expressly disclose wherein

the ciphering authentication request message includes a RAND value and wherein the key value is generated by the terminal based on the RAND value.

However, this well known feature of wherein the ciphering authentication request message includes a RAND value and wherein the key value is generated by the terminal based on the RAND value is disclosed in the AL- Tawil et al. ("a random number RAND is sent" – e.g. page 22, left column, lines 35-36) and wherein the key value is generated by the terminal based on the RAND value (page 22, right column).

Admitted Prior Art - Arata et al. - AL- Tawil et al. are analogous art of the same field of mobile communication.

It would have been obvious to a person with ordinary skill in the art at the time of the invention to incorporate AL- Tawil et al.'s wherein the ciphering authentication request message includes a RAND value and wherein the key value is generated by the terminal based on the RAND value into Admitted Prior Art - Arata et al. motivated by to provide "less signaling traffic and better call set up time that can be used in GSM networks", as disclosed in the abstract of AL- Tawil et al.

11. Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (hereinafter as Admitted Prior Art) in view of Arata et al. (European Patent publication number 0617528 A2, published on 28 September 1994 and hereinafter as Arata et al.) as applied to claims 1, 5-6 and 53 above, and further in view of Examiner's Official Notice.

As per **claim 54**, Admitted Prior Art - Arata et al. discloses a method as applied above in claim 1. Admitted Prior Art - Arata et al. does not explicitly disclose

comprising: transmitting a ciphering deactivation request message from the terminal to the network during at a time when ciphered data is being transferred between the terminal and network; and deactivating ciphering in response to the ciphering deactivation request message, the ciphering being deactivated during the call.

However, as evidenced by Arata et al. reference, in col. 3, lines 11-24, Arata et al. discloses "...In response to the inputted information, the portable apparatus sends a call signal including the **user's requesting mode** to a base station..."

It would have been obvious to a person with ordinary skill in the art that a ciphering request (i.e. user's requesting mode) can include a ciphering deactivation request transmitting a ciphering deactivation request message from the terminal to the network during at a time when ciphered data is being transferred between the terminal and network and deactivating ciphering in response to the ciphering deactivation request message, the ciphering being deactivated during the call, which is well known in the art at the time of invention. Examiner takes Official Notice that a ciphering request can include a ciphering deactivation request transmitting a ciphering deactivation request for the call information from the terminal to the network and performing ciphering deactivation and transmitting a ciphering deactivation completion message to the terminal in response to the ciphering deactivation request message. The motivation of doing so would have been "**to adopt the mode other than the privacy mode**", as taught by Arata et al. (col. 3, lines 23-24).

The examiner respectfully points out a person with ordinary skill in the art is someone having common sense and ordinary creativity (*KSR v. Teleflex 550 U.S., 127*

S. Ct. 1727 (2007) will easily recognize that the steps claim 54 are merely "The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR* at 1739

Response to Arguments

12. Applicant's arguments filed 31 October 2008 have been respectfully and fully considered but they are not persuasive.

13. The Applicant's arguments are summarized as below:

- AAPA does not teach "ciphering additional call information to be transmitted between the terminal and network after the ciphering activation completion message is received from the network, wherein the ciphering request is transmitted during transfer of data from the terminal to the network during the call", the examiner respectfully disagrees.

  First, as set forth clearly in the record, the examiner does not use AAPA reference alone to address this newly amended claim limitation. Instead, the combined teachings of AAPA and Arata et al. met the claimed limitation. Also, Applicant is respectfully reminded that One cannot show nonobviousness by attacking references individually where the rejections are based on combination of references. See In re Keller, 642 F. 2d 413, 208 USPQ 871 (CCPA 1981); In re Merck & Co., 800 F. 2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

  Second, the newly added claim limitation of "ciphering additional call information to be transmitted..." to claim 1 can be reasonably interpreted

as ciphering all data to be transferred after all the process required for ciphering activation and call information can be reasonably interpreted as any data transmitting between terminal and network in view of Applicant's original disclosure. (Please above claim interpretation)

Third, as set forth clearly in the above rejection that AAPA discloses ciphering additional call information to be transmitted between the terminal and network after the ciphering activation completion message is received from the network (*When a mobile communication terminal requests registration to the network, the network performs the user authentication process of confirming whether the terminal is an authenticated terminal. The ciphering activation process then determines whether data to be transferred between the terminal and network should be ciphered...Once the ciphering activation is set up between the mobile communication terminal and the network through the ciphering activation process, the call information is ciphered and then transferred therebetween* - paragraphs [3] - [4] of Admitted Prior Art and *Finish procedure data to be transmitted after the procedure is ciphered* step 413 in fig. 4 of Admitted Prior Art). Although Admitted Prior Art disclose receive registration request/CM service request without ciphering (*Step 402 in fig. 4. Perform the ciphering? In step 403 is performed after step 402 and thus, received registration request/CM service request message is not ciphered and please note received registration request/CM service*

request message corresponds to Applicant's call information), transmitting a ciphering request for call information from the network to the terminal after the call information has been transferred between the terminal and network without ciphering (e.g. step 407 in fig. 4 of Admitted Prior Art), Admitted Prior Art does not disclose transmitting a ciphering request for call information from the terminal to the network and wherein the ciphering request is transmitted during transfer of data from the terminal to the network during the call.

However, Arata et al. discloses transmitting a ciphering request for call information from the terminal to the network and wherein the ciphering request is transmitted during transfer of data from the terminal to the network during the call *(When the user of a radio telecommunication apparatus requests a privacy mode and a call origination…sends a call signal including the requested privacy mode to a base station – e.g. abstract).* Admitted Prior Art and Arata et al. are analogous art of the same field of mobile communication. Thus, it would have been obvious for a person with ordinary skill in the art at the time of the invention to incorporate Arata et al.'s transmitting a ciphering request for call information from the terminal to the network and wherein the ciphering request is transmitted during transfer of data from the terminal to the network during the call into Admitted Prior Art's method or replace Admitted Prior Art's transmitting a registration request from the terminal to

the network with Arata et al.'s transmitting a ciphering request for call information from the terminal to the network.

The motivation of doing so would have been to enable a caller/user to "sends a call signal including the requested privacy mode to a base station" to enable the terminal to transmit the request if the ciphering request has not been raised by the network and "use a privacy mode having a voice privacy feature which protects the user's communicated voice signal against eavesdropping", as taught by Arata et al. (abstract and col. 2, lines 40- 43).

Therefore, AAPA - Arata et al. discloses ciphering additional call information to be transmitted between the terminal and network after the ciphering activation completion message is received from the network, wherein the ciphering request is transmitted during transfer of data from the terminal to the network during the call.

- The terminal never initiates ciphering activation in the Figure 4 of AAPA method. Also, the Figure 4 does not connected a call with a network and transmit some call information without ciphering, nor does it transmit additional call information with ciphering within the same call after the terminal initiates ciphering, the examiner respectfully disagrees.

First, the examiner respectfully invites the Applicant to point out where in the Office Action that the examiner ever stated the terminal initiates ciphering activation in the Figure 4 of AAPA method? The fact is

the examiner stated in the Office Action Although Admitted Prior Art disclose receive registration request/CM service request without ciphering (*Step 402 in fig. 4. Perform the ciphering? In step 403 is performed after step 402 and thus, received registration request/CM service request message is not ciphered and please note received registration request/CM service request message corresponds to Applicant's call information),* transmitting a ciphering request for call information from the network to the terminal after the call information has been transferred between the terminal and network without ciphering (e.g. step 407 in fig. 4 of Admitted Prior Art), Admitted Prior Art does not disclose transmitting a ciphering request for call information from the terminal to the network and wherein the ciphering request is transmitted during transfer of data from the terminal to the network during the call.

Second, the amended claim does not recite terminal connect a call with a network and it transmit additional call information with ciphering within the same call after the terminal initiates ciphering. Instead, it only recites connecting a call between the terminal and the network and ciphering additional call information to be transmitted between the terminal and network after the ciphering activation completion message is received from the network, wherein the ciphering request is transmitted during transfer of data from the terminal to the network during the call.

Third, in order not to repeat herself, the examiner invites the Applicant to read above examiner's claim interpretation and rationales to reject transmit some call information without ciphering and transmit additional call information to be transmitted between the terminal and network after the ciphering activation completion message is received from the network, wherein the ciphering request is transmitted during transfer of data from the terminal to the network during the call.

- Arata does not teach allowing a user to request ciphering during the call, and more specifically after the call has been connected and after call information has already been transmitted between the terminal and the network without ciphering during the call, transmitting a ciphering request from the terminal to the networks **after** the call information has been transferred between the terminal and network without ciphering, wherein the ciphering request is transmitted during transfer of data from the terminal to the network **during the call**. In addition, Arata does not teach ciphering additional call information to be transmitted between the terminal and network, the examiner respectfully disagrees.

First, as set forth clearly in the record, the examiner does not use Arata reference alone to reject claim 1. Instead, the combined teachings of AAPA and Arata et al. met the claimed limitation. Also, Applicant is respectfully reminded that One cannot show nonobviousness by attacking references individually where the rejections are based on combination of

references. See In re Keller, 642 F. 2d 413, 208 USPQ 871 (CCPA 1981); In re Merck & Co., 800 F. 2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Second, the claim never recites allowing a user to request ciphering during the call and after the call has been connected and after call information has already been transmitted between the terminal and the network without ciphering during the call and etc.

Third, Arata discloses in the abstract *When the user of a radio telecommunication apparatus requests a privacy mode and a call origination…sends a call signal including the requested privacy mode to a base station – e.g. abstract,* which met the claim limitation of the ciphering request is transmitted during transfer of data from the terminal to the network during the call.

Therefore, AAPA - Arata et al. discloses all the limitations recited in claim 1.

- Traverse rejection to dependent claims 2 and 54 due to their dependency to claim 1 and traverse examiner's official notice used in claim 54, the examiner respectfully disagrees.

First, Applicant's argument for claim 1 as discussed above are traversed and therefore, the Applicant's arguments for dependent claims 2 and 54 are based on dependency on claim 1 are traversed and it is not allowable.

Second, the examiner cannot find any support in the original disclosure that "in the past only the network initiated ciphering deactivation" as argued by the Applicant on page 7 of the remark.

Third, as evidenced by Arata et al. reference, in col. 3, lines 11-24, Arata et al. discloses "...In response to the inputted information, the portable apparatus sends a call signal including the **user's requesting mode** to a base station..."

However, as evidenced by Arata et al. reference, in col. 3, lines 11-24, Arata et al. discloses "...In response to the inputted information, the portable apparatus sends a call signal including the **user's requesting mode** to a base station..."

It would have been obvious to a person with ordinary skill in the art that a ciphering request (i.e. user's requesting mode) can include a ciphering deactivation request transmitting a ciphering deactivation request message from the terminal to the network during at a time when ciphered data is being transferred between the terminal and network and deactivating ciphering in response to the ciphering deactivation request message, the ciphering being deactivated during the call, which is well known in the art at the time of invention. Examiner takes Official Notice that a ciphering request can include a ciphering deactivation request transmitting a ciphering deactivation request for the call information from the terminal to the network and performing ciphering deactivation and

transmitting a ciphering deactivation completion message to the terminal in response to the ciphering deactivation request message. The motivation of doing so would have been "to adopt the mode other than the privacy mode", as taught by Arata et al. (col. 3, lines 23-24).

Therefore, both claims 2 and 54 are not allowable.

Conclusion

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to APRIL Y. SHAN whose telephone number is (571)270-1014. The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y. Vu can be reached on (571) 272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/April Y Shan/
Examiner, Art Unit 2435

/Kimyen Vu/
Supervisory Patent Examiner, Art Unit 2435